

APPENDIX K

PHASE II SITE INVESTIGATION

HANGARS 1 AND 2

GATEWAY NATIONAL RECREATION AREA

FLOYD BENNETT FIELD, BROOKLYN, NEW YORK



May 15, 2012

Ms. Roberta Zwier
Senior Environmental Scientist
Williams
99 Faber Road
Princeton, New Jersey 08540

RE: Phase II Site Investigation
Hanger 1 and 2
Gateway National Recreation Area
Floyd Bennett Field
Brooklyn, New York 11234
BL Project Number 10C3542

Dear Ms. Zwier:

BL Companies has performed a Phase II Site Investigation (SI) at Hangers 1 and 2 at Floyd Bennett Field in the Borough of Brooklyn, City of New York, Kings County, New York (the Site). The goal of the Phase II SI was to investigate identified "Recognized Environmental Conditions" (RECs) and areas of proposed excavation associated with the Rockaway Delivery Lateral Project to determine the presence or absence of a contaminant release(s) that may require further investigation, remediation and/or environmental material management planning. The proposed Rockaway Lateral Delivery Project would construct a natural gas pipeline connection to an on-Site distribution station, creating an additional distribution station to the National Grid System in Brooklyn New York.

The results of Phase II SI and their regulatory and materials management implications are discussed in this letter report. The Site Location Map and Site Plan are included in Attachment A.

BACKGROUND

Site Description

The Site is located on a portion of the Gateway National Recreation Area, which is part of the Jamaica Bay Unit of Gateway National Recreation Area, on Flatbush Avenue in

the Borough of Brooklyn, City of New York, Kings County, New York. This portion of the Gateway National Recreation Area has an address of 3260 Flatbush Avenue. The Site is comprised of aviation Hangars 1 and 2 (also known as the South Building) located on the southwest portion of Floyd Bennett Field, and the area of approximately 100 feet surrounding South Building within Floyd Bennett Field. Floyd Bennett Field was the first municipal airport serving New York City and is also a former United States Military airbase.

The Site is owned and managed by the United State National Parks Service (US NPS). The Site is currently unoccupied and in a state of disrepair. The Site is used for miscellaneous storage by the National Park Service and other entities. The exterior portions of the Site consist of paved and overgrown paved areas.

The Site is developed with an approximately 52,500 square-foot building. The two original hangars were built in 1930 for use as airplane hangars. In 1937, the hangars were connected by a two story central addition built for use as a machine shop. Use as an airplane hangar reportedly ceased in 1972, when the Site was sold to the US NPS.

The Site was heated by steam which is produced in the neighboring Hanger #4 to the north and pumped to the Site via underground steam pipes. Steam expansion chambers and other equipment associated with steam heat are located beneath the floor in the middle section of the Site. Consolidated Edison Company of New York provides electricity to the Site. The Site is connected to municipal sewer and water.

The Site was formerly part of the wetlands/tidal basin area of Dead Horse Inlet. Fill was imported to the area to develop land for Floyd Bennett Field. According to a 2007 Remedial Investigation Report (RIR) for leaking underground storage tanks (USTs) conducted by Prestige Environmental Inc., the fill material used to create the land was comprised of a mixture of sands, silts, gravel and construction debris including coal, coal ash, cinders, charcoal, and glass.

According to the USGS Topographic Map of Coney Island, New York-New Jersey, 7.5' United States Geological Survey (USGS) Quadrangle, the Site is relatively flat with a minor westerly slope. The approximate average elevation is 15 feet above mean sea level (AMSL). The Site is depicted in an Otherwise Protected Area (OPA) flood area on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for New York, New York (map number 3604970359F). Floyd Bennett Field is depicted with a sea wall protecting the western, southern, and eastern boundaries of the peninsula.

According to the New York State Department of Environmental Conservation (NYSDEC) map entitled Groundwater Resources of New York State, the Site is located within the Long Island Aquifer. Floyd Bennett Field is located on a peninsula in Jamaica Bay; therefore the Site is hydraulically disconnected from any Sites located east, south, or west of Floyd Bennett Field. According to a groundwater elevation study conducted during the Phase II SI, groundwater is approximately six to eight feet below ground

surface. According to the RIR prepared by Prestige, groundwater flow direction in the vicinity of the Site is to both to the northwest and southeast, and flow directions may be tidally influenced.

Previous Reports

Remedial Investigation Report Addendum – Former Underground Storage Tanks At Hangar 4, Gateway National Recreation Area, Floyd Bennett Field, Prestige Environmental Inc. August 27, 2007.

Prestige completed a RIR for the contaminated soil encountered during the 1999 removal of five No. 2 fuel oil underground storage tanks (USTs) in the area between Hangar 4 and the South Building. According to this report, five USTs (550-gallon, 1,000-gallon, 2,000-gallon, 10,000-gallon, and 25,000-gallon UST), were removed from the area south of Hangar 4. The tank grave extended approximately 65 feet south of Hangar 4 and therefore soil excavation occurred within the 100-foot radius of the South Building (on the Site). Soil and groundwater samples collected from in and around the tank grave in 1999 and 2001 had contamination levels above applicable NYSDEC regulatory thresholds. Results from a 2005 groundwater monitoring event indicated that natural degradation was reducing the levels of ground water contamination. In 2007, an additional groundwater monitoring well was installed and sampled downgradient of the tank grave (MW-6). No contaminants other than chloroform and bromodichloromethane were detected at concentrations above laboratory detection limits. Chloroform was detected at a level (39ug/L) which was above the NYSDEC Groundwater Standard of 7ug/L. Bromodichloromethane was detected at 4ug/L, however, there are no established regulatory criteria for this compound. Prestige suggested that the chloroform and bromodichloromethane could be attributed to a leak of treated water either from Hangar 4 or a fire hydrant line located in close proximity to the monitoring well. According to Prestige, the lack of oil related contaminants in the sample collected from the well located downgradient of the tank grave and former area of soil contamination indicates that the soil contamination from the tanks has been properly remediated and no additional investigation or corrective action is necessary.

Phase I Environmental Site Assessment – Hangers 1 and 2, Gateway Recreation Area, Floyd Bennett Field, Brooklyn, New York, November 11, 2011.

BL Companies completed a Phase I Environmental Site Assessment (ESA) of the South Building at Floyd Bennett Field on Flatbush Avenue in Brooklyn, New York (the "Site"). The purpose of the assessment was to evaluate and identify "Recognized Environmental Conditions" (RECs), indicative of releases and/or threatened releases of hazardous substances and petroleum products on or around the Site.

The assessment revealed no evidence of RECs in connection with the Site except for the following:

- Former use of the Site as an airplane hangar, which included the storage of aircraft, repair and maintenance (with an engine and parts machine shop) and fueling
- Presence of floor drains within unconfirmed discharge locations located in the former service areas
- Presence of drums in poor condition and of unknown content located adjacent to the Site
- Numerous instances of documented soil contamination on Floyd Bennett Field. The exact location of this contamination was not provided in the environmental database listings and some of these spills/releases may have occurred on the Site

The assessment revealed no evidence of Historic Recognized Environmental Concerns (HRECs) in connection with the Site except for the following:

- Documented No. 2 fuel oil release from USTs located on or adjacent to the northern portion of the Site. In 1999, contamination from approximately 500 gallons of spilled fuel oil was reportedly observed when five tanks were removed from the ground. According to the 2007 RIR, the contamination has been removed. According to the NYSDEC Spills Incident Database this incident was closed by the NYSDEC on September 6, 2007

The assessment revealed the following de minimis conditions in connection with the Site:

- Presence of numerous paint cans in poor condition
- Presence of empty drums of unknown former content within Site
- Documented presence of contaminant (chloroform) above applicable state regulations

The assessment revealed no evidence of Business Environmental Risks (BERs) in connection with the Site except for the following:

- Presence of lead-based paint (LBP) and asbestos-containing materials (ACM) according to Hazardous Building Materials Inspection (HBMI) Survey conducted in 2011 by BL Companies.
- Likely presence of polychlorinated biphenols (PCBs) in the light ballasts based on the presumed age of the lights.

Based on the information presented in the Phase I ESA, BL Companies recommended the following:

- Phase II Subsurface Investigation (SI). BL Companies recommended soil borings be completed in the area surrounding the South Building as well as in the proposed locations within the building. Groundwater monitoring wells should be

installed in two geotechnical borings and sampled for the presence/absence of compounds of concern. Up to three additional groundwater monitoring wells should be installed as part of the Phase II SI. Soil and groundwater samples should be collected from the borings for laboratory analysis for the presence/absence of compounds of concern.

- Hazardous building materials should be removed from the Site according to local, state, and federal regulations prior to renovation/demolition activities.

REGULATORY FRAMEWORK

The NYSDEC promulgated Soil Cleanup Objectives (SCOs) as part of 6 New York Codes Rules and Regulations (NYCRR) Part 375 of the Environmental Remediation Programs. The Part 375 regulations establish two categories of Site use:

- “Unrestricted Use” is defined as a use that may occur without the imposition of environmental easement or other land use controls.
- “Restricted Use” is defined as a use that require a site management plan that will rely on institutional and/or engineering controls to manage exposure to residue contamination remaining on the site. The Restricted Use category, in turn, may include “Residential Use”, Restricted-Residential Use”, “Restricted-Commercial Use” and Restricted-Industrial Use”.

Ground water quality standards were published by the NYSDEC in the Division of Waste Technical and Operation Guidance Series (TOGS) 1.1.1. Ambient Water Quality Standards (AWQS) and Guidance Values and Ground Water Effluent Limitations.

The laboratory analytical results for soils collected during Phase II SI activities were compared against NYCRR Part 375 Unrestricted Use, Restricted-Commercial Use and Restricted-Industrial Use SCOs. Ground water samples were compared against TOGS 1.1.1. values for a GA Water Classification (source of drinking water). The SCOs and TOGS 1.1.1 values were used for comparative screening purposes to evaluate soil and ground water quality at the Site, and are not Site-specific cleanup goals. The contemplated use of the Site is intended to be industrial as a natural gas pipeline connection and distribution station. Therefore, the comparisons of Phase II SI soil results against the Restricted-Industrial Use SCOs are the most applicable for the contemplated use of the Site.

PHASE II SUBSURFACE INVESTIGATION

The following is a discussion of the investigative approach conducted as part of the Phase II SI. The field-sampling program described herein was designed to fulfill the data quality objective (DQO) of determining the presence or absence of regulated compounds in the soil and ground water that may have resulted from releases of oil

and/or hazardous substances associated with past use of the Site as an aviation facility. Specifically, the field-sampling program was designed to establish environmental conditions prior to Site occupancy and use, and determine if soil and ground water encountered during the proposed construction activities will require special handling and/or disposal as regulated materials. Specific areas of concern identified at the Site include the proposed natural gas pipeline excavation areas, former airplane hangars, and the area of documented fuel oil release from USTs located on or adjacent to the northern portion of the Site.

Summary of Work and Rationale

BL Companies mobilized a truck-mounted Geoprobe® 5400 and a CME® 45 drill rig operated by Soil Mechanics of Seaford, New York in January 2012 to advance soil borings and install ground water monitoring wells at the Site. Twenty-eight soil borings, identified as GP-1 through GP-28 were advanced at the Site utilizing the Geoprobe® drill rig. Six borings (B-1 through B-6) were advanced utilizing the CME® drill rig. Borings GP-1, GP-3, GP-5, GP-6, GP-8, GP-10 and B-6 were drilled southeast of the South Building, in the area of the proposed natural gas delivery lateral pipeline excavation. Borings GP-11 through GP-18 and borings B-1 through B-4 were drilled inside the former airplane hangars, including areas formerly used for storage of aircraft, aircraft repair and maintenance, and fueling. Borings GP-23, GP-24, GP-25, GP-26, and B-5 were drilled northwest of the South Building, in the area of the proposed natural gas outlet lateral pipeline excavation. Borings GP-2, GP-4, GP-7, GP-9, GP-19, GP-20, GP-21 and GP-22 were drilled around the perimeter of the South Building in areas that had the highest potential for releases of constituents of concern to surface soils from former operations. Borings GP-27 and GP-28 were drilled in the area of the approximate 500-gallon fuel oil spill, UST removal, and contaminated soil excavation. In addition, borings B-1 through B-6 were used to collect geotechnical data for future building and foundation design. It should be noted that several Geoprobe® borings were proposed for installation within the infill building between Hangers 1 and 2, where a machine shop reportedly was formerly located. However, due to access considerations and under-slab utilities that could not be accurately located, borings could not be completed in that portion of the South Building.

Five permanent ground water monitoring wells, identified as B-1/MW-1, B-4/MW-2, GP-24/MW-3, GP-10/MW-4, and GP-2/MW-5 were installed at the Site. Monitoring wells MW-1 and MW-2 were installed to assess ground water quality in the area of the hangars. Monitoring wells MW-3, MW-4 and MW-5 were installed to assess ground water quality in the area of the proposed natural gas lateral pipeline excavations. Monitoring well MW-6 is an existing well installed in 2007 to assess the ground water quality hydraulically downgradient of the fuel oil spill, UST removal, and contaminated soil excavation.

The location of the soil borings and ground water monitoring wells are depicted on the Environmental Boring Location Plan included in Attachment A.

Soil and Ground Water Sampling and Analysis

BL Companies has conducted soil and ground water sampling at the Site. Continuous soil samples were collected from borings GP-1 through GP-28 using 4-foot long Geoprobe® macrocore sampling sleeves. Soil samples were collected from boring B-4 and B-6 using a 2-foot long slit-spoon sampler. A qualified environmental professional logged the lithology, measured ground water elevations, investigated for soil contamination by visual and olfactory evidence, and screened each soil sample for VOC emissions using a photoionization detector (PID) calibrated to an isobutylene standard. PID readings and visual/olfactory observations of the soil samples are included on boring logs presented in Attachment B.

Overburden deposits of the Site are classified into three main stratigraphic units: (1) Fill; (2) organic-rich alluvial marsh deposits; and glacial deposits. The stratigraphic sequence consists predominately of a layer of glacial deposits of unknown thickness overlain by alluvial marsh deposits. Fill deposits overlie the alluvial deposits. The fill is capped with asphalt or concrete paving.

The glacial deposits are stratigraphically located between the organic-rich alluvial marsh deposits and the underlying competent bedrock. Bedrock was not encountered during the Phase II SI. The glacial deposits differ significantly from the overlying alluvial marsh deposits. The glacial deposits consist predominately of gray fine sand in the soil borings taken throughout the Site.

The alluvial marsh deposits overly the glacial deposits. The alluvial unit consists predominately of tidal marsh deposits containing organic matter bonded by a matrix of sand and silt. The top of the alluvial marsh deposits is believed to represent the former land surface prior to filling of the wetlands/tidal basin area of the Dead Horse Inlet. The alluvial marsh deposits range from approximately 1 to 6 feet in thickness and were encountered at an approximate depth of 15 feet below the ground surface (bgs).

Fill is present immediately above the alluvial marsh deposits and is approximately 15 feet thick across the Site. The fill unit consists predominately of fine to medium sand with variable percentages of course sand, silt and bivalve fragments. The fill deposits represent the material used to fill the wetlands/tidal basin during the Site's development and was reportedly dredged from Jamaica Bay. The upper 7 to 9 feet of the fill unit is unsaturated.

Visual or olfactory evidence of contamination was not identified in any of the soil samples collected from the Site. PID readings ranged from 0.0 parts per million (ppm) to 4.7 ppm. The PID readings above 0.0 ppm were commonly recorded in samples containing asphalt and organic-rich alluvial marsh deposits.

Twenty-six soil samples were collected from borings for laboratory analyses at intervals that: (a) exhibited the highest PID reading; b) were in areas proposed to be excavated

for installation of natural gas pipeline laterals; or c) based on the identified release mechanisms had the highest potential to contain constituents of concern. Soil samples were stored on ice and shipped under proper chain-of-custody protocols to York Analytical Laboratories Inc. (York) in Stratford Connecticut and analyzed for the presence of regulated compounds, including: volatile organic compounds (VOCs) by Environmental Protection Agency (EPA) Method 8260C, polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270C, PCBs by EPA Method 8082, Resource Conservation Recovery Act (RCRA) Metals/total lead by EPA Method 6000/7000 Series, and/or mercury by EPA Method 7470/7071. Soil samples selected for VOC analysis were preserved in the field in accordance with EPA Method 5035.

Five ground water monitoring wells (MW-1 through MW-5) were installed on-Site during Phase II SI activities. The monitoring wells were installed to a depth of 15 feet bgs. The monitoring wells were installed at locations and depths to characterize Site hydrology and the ground water quality of the shallow overburden aquifer. The construction detail for the five monitoring wells is illustrated on the Environmental Boring Location Plan. Monitoring wells were constructed using 10 feet of 2-inch diameter schedule 40 polyvinyl chloride (PVC) 0.010-inch slotted screens with an appropriate length of 2-inch diameter PVC riser pipe. The annular space between the well screen and borehole wall was backfilled with chemically inert #1 grain-size sand. A bentonite clay seal was placed above the sand pack. The remaining annular space was filled to grade with formation drill cuttings. Each monitoring wells was fitted with a flush mount curb box secured with cement.

Ground water from each of the six monitoring wells was collected on February 6, 2012, in accordance with EPA Low Stress (low flow) Purging and Sampling Procedures for the Collection of Ground Water Samples from Monitoring Wells (July 1996). Ground water samples were placed into laboratory prepared containers and stored in an ice filled cooler maintained at 4 degrees centigrade. Chain-of Custody forms were filed out in the field and accompanied the samples during transportation to the laboratory. Ground water samples were analyzed by York for the presence of VOCs, PAHs, PCBs, Priority Pollutant 13 metals via EPA Method 6000/7000 Series, and mercury via EPA Method 7470/7471. Ground water sampling logs are included in Attachment C.

Analytical Results and Comparison to NYSDEC Criteria

Phase II SI soil and ground water analytical results are summarized in Tables 1 and 2 included in Attachment D. Soil and groundwater sample locations are illustrated on the Environmental Boring Location Plan included in Attachment A. Summary laboratory analytical reports are included in Attachment E, complete ASB Data Package B laboratory analytical reports can be provided upon request.

Soil

Soil analytical results were compared to the NYSDEC Restricted-Industrial Use SCOs as defined in 6 NYCRR Part 375, Table 375-6.8, December 2006. Table 1 presents the

sample identification number, sample depth, analytical result, and any applicable data qualifier for the analyzed compounds. In addition, Table 1 compares soil analytical results against Restricted-Commercial Use and Unrestricted Use SCOs as defined in 6 NYCRR Part 375-6.8(a), December 4, 2006. The inclusion of these SCOS is presented for informational purposes only, and do not represent Site-specific SCOs.

VOCs, PAHs, PCBs and mercury were not detected in soils at concentrations above the laboratory reporting limits, and did not exceed any of the SCOs. Metals were detected at concentrations below SCOs. These soil samples, exhibiting non-detectable concentrations of VOCs, PAHs, PCBs and mercury, and metals at concentrations below SCOs, were collected throughout the Site and within discrete intervals of the fill deposits and alluvial marsh deposits.

Ground Water

One round of ground water samples were collected for laboratory analyses from six monitoring wells to characterize ground water chemistry. The ground water results are compared to the TOGS 1.1.1 values in Table 2. Table 2 presents the sample identification, analytical result, and any applicable data qualifier for VOCs, PAHs, PCBs, Priority Pollutant Metals and mercury. Analytical results that exceed TOGS 1.1.1 values are shaded.

VOCs, PAHs, PCBs, Priority Pollutant Metals, and mercury were not detected at concentrations above the laboratory reporting limits in ground water samples collected from each of the six monitoring wells. Acetone was detected below the laboratory reporting limits at estimated concentrations ranging from 3.7 ug/l (MW-6) to 5.4 ug/l (MW-5). Methylene chloride was detected at estimated concentration ranging from 2.5 ug/l (MW-2) to 4.2 ug/l (MW-1).

The analytical reporting limits for several VOCs (1,2,3 trichloropropane, 1,2,dibromo-3-chloropropane, 1,2-dichloroethane, and trans-1,3,Dichloropropylene); and PAHs (i.e., benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene) are above the TOGS 1.1.1 screening values for a GA Water Classification.

FINDINGS AND CONCLUSIONS

The Phase II SI provided sufficient information to determine the presence or absence of regulated constituents of concern in the soil and ground water at identified RECs and areas of proposed excavations associated with the Rockaway Delivery Lateral Project. VOCs, PAHs, PCBs and inorganic compounds were not detected in soils at concentrations above the laboratory reporting limits, and did not exceed any of the NYSDEC SCOs. VOCs, PAHs, PCBs, Priority Pollutant Metals, and mercury were not detected at concentrations above the laboratory reporting limits in ground water samples collected from each of the six monitoring wells.

Soil and ground water results from Phase II activities conducted in the area of the fuel oil spill, UST removal, and contaminated soil excavation support the conclusion of the RIR dated August 27, 2007 which states that "soil contamination from the tanks has been properly remediated and no additional investigation or corrective action is necessary. "

RECOMMENDATIONS

Based on the findings of the Phase II SI, BL Companies recommends:

- Chemical characterization of on-Site soils indicates that soils do not contain contaminants at concentrations above NYSDEC SCOs. Therefore, based on the data presented herein, it is expected that soils excavated in the areas of the proposed construction will not contain contaminants at concentrations that require environmental material management planning and/or special health and safety planning. Transportation and disposal of soils off-Site should be conducted in accordance with all local, State and Federal regulations, including 6 NYCRR Part 360 and Part 364 (as applicable).
- Although the data provided herein did not identify releases of regulated compounds, given the past use of the Site, visual, olfactory and instrument-based soil screening should be performed by a qualified environmental professional during all excavation activities to confirm material characterization.
- All liquids to be removed from the Site, including excavation dewatering, should be handled, transported and disposed of in accordance with local, State and Federal regulations. If it is determined that dewatering is necessary, the determination of the discharge point for the dewatering effluent should be determined based on the permits that can be obtained from the regulatory authorities. Discharge of water generated from large-scale construction activities to surface waters should be performed under a State Pollution Discharge Elimination System (SPDES) permit. Discharge to the sanitary sewer would require submittal of an application to discharge to the New York City Department of Environmental Protection (NYCDEP) and subsequent approval of the application by NYCDEP.
- A second round of ground water samples should be collected from the six on-Site monitoring wells prior to construction to confirm ground water quality and provide any additional data required for the development of an excavation dewatering plan.
- Hazardous building materials should be removed from the Site according to local, State, and Federal regulations prior to renovation/demolition activities.

LIMITATIONS

The conclusions stated above are based solely on the information described in this report. The data and observations generated during this monitoring period reflect the conditions found on the project Site on the dates and at the locations specified. Where visual observations are included in the report, they represent conditions at the time of investigation, and may not be indicative of past or future conditions. The data cannot be extrapolated to locations on the Site that were not tested, or to compounds for which tests were not conducted.

Latent conditions and other information may become evident in the future based on currently unavailable evidence. BL Companies assumes no responsibility for such conditions or for the inspection, engineering, or repair that might be required to discover or correct such factors. Should such evidence arise, it should be forwarded to BL Companies so that additional conclusions and recommendations may be evaluated as necessary.

This report has been completed solely for the benefit and individual use of the client. No part thereof, nor any copy of the same, shall be used for any purpose by anyone other than the client. No disclosure or reliance of this report may be made without the prior written consent of BL Companies.

CLOSING

BL Companies appreciates the opportunity to provide environmental services to you. Should there be any questions regarding the findings, conclusions, or recommendations provided in this report, please do not hesitate to contact the undersigned.

Sincerely,
BL Companies

A handwritten signature in cursive script, reading "Samuel R. Haydock".

Samuel R. Haydock, MS, LEP
Director, Northeast Environmental Operations

Attachments

The appendices/attachments to this document are available for viewing on the FERC website (<http://www.ferc.gov>). Using the “eLibrary” link, select “General Search” from the eLibrary menu, enter the selected date range and Docket No. CP13-36 (Transco’s application), and follow the instructions. For assistance, please call 1-866-208-3676, or e-mail FERCOnlineSupport@ferc.gov.